

ARCHITECTURE

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THE SCHOOL OF ARCHITECTURE COLUMBIA UNIVERSITY NEW YORK, N. Y.

The circular describing the new and enlarged Program of Studies, with atelier privileges, and the Announcement for 1905-1906, may now be had on application to the Secretary of the University.

PROFESSIONAL COMMENT.

AT the May meeting of the New York Chapter of the American Institute of Architects, the subject for discussion was the new programme of studies in the Columbia School of Architecture, and the Chapter entertained as its guest President Butler of Columbia University, Mr. C. P. Warren, Tutor in Construction in the School of Architecture, and Mr. John Russell Pope, representing Mr. C. F. McKim, who was unavoidably absent from town, as was also Professor Hamlin, the head of the School of Architecture. President Butler, in an admirable address, set forth the plans of the University for the organization of a University Faculty of Fine Arts, explaining the part to be played by the Schools of the National Academy of Design in the proposed scheme of alliance, and making clear the broad and liberal spirit in which these plans were conceived. He then described the reorganization of the instruction in Design in the School of Architecture, which goes into effect next year by the establishment of two University *ateliers* under the direction of Mr. C. F. McKim and Mr. Thomas Hastings; the addition of the inflexible four years' course for the degree and of the four "classes" in the school; and the transfer of the instruction in mathematics to the Department of Mathematics of the University. The President dwelt upon the liberalizing and strengthening effect of these changes upon the professional training of the students, and was followed by Mr. Hastings, who expressed the greatest satisfaction and enthusiasm at the proposed introduction of the element of artistic apprenticeship into the artistic and imaginative part of the architect's schooling at Columbia University, and at the recognition by that institution of the value of methods which have been tested by long success abroad. Mr. Henry Rutgers Marshall urged the remedying of what seemed to him the chief weakness of the School—the subordination of the artistic to the academic spirit in the instruction, and the lack of practical training. Mr. Warren defended the School from the charge of neglect of the practical and artistic sides of the students' training, and pointed in support of his representations to the drawings upon the walls of the room. These drawings represented the current work of the School in various departments, and formed an interesting feature of the meeting.

The spirit of interest and, indeed, of enthusiasm in and for the School manifested by the Chapter were very gratifying to its representatives and friends, and it is certainly a subject for congratulation that a new spirit of co-operation and greater intimacy of acquaintance between the School and the active profession should be established by such a conference. Each is necessary to the other, and each can be of immense service to the other. With proper sympathy and co-operation between the University and the great body of the profession in the Metropolis there is no reason why this School, with the liberal and progressive activity which it is displaying, and the great and progressive University behind it, should not become incontestably the greatest American School of Architecture, if indeed, it has not already won that position.

AS was expected, the report of the Superintendent of Buildings and his expert commission relative to the buildings that fell in the Spring thaw has already been forgotten. Two or three inspectors have been dismissed for neglect of duty, but no attention whatever has been paid to the strong recommendation of the commission as to the methods to be adopted to prevent further disasters. In the meantime, the entire northern section of the city is being

built up mainly under the supervision of a class of men with absolutely no experience in matters of construction, and Superintendent Hopper has added the following unofficial recommendation to the strong plea made by his experts:

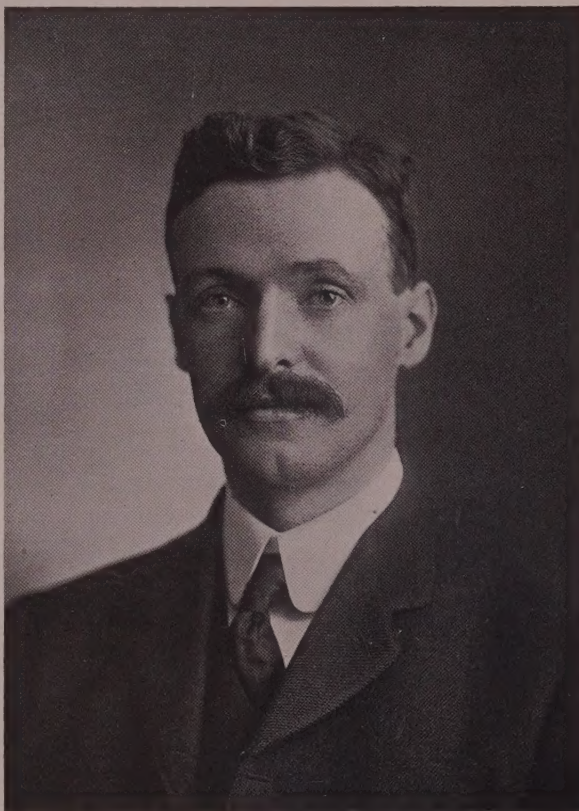
"I might state that this Bureau feels, from day to day, the necessity of more assistance by an increase in our force to help secure a greater efficiency. The field for speculation in land and building improvements at the present time is attracting many persons who are totally ignorant of the responsibilities they are undertaking, and some measures should be taken to guard and protect the public from the possible consequences that usually follow the work of inexperienced and incompetent persons.

"The suggestion of the expert committee that was appointed in March to look into these same matters was that the authorities adopt some plan of license. I think the press also spoke favorably on this point. It seems to me that if some system of that kind were adopted we would then have building matters in safer hands, for, in order to secure a license, it would be necessary to show competency."

Unfortunately this latest accident seems to be having no more effect than the "Ireland," "Darlington" and Orchard Street disasters. But as long as the architectural profession itself is not a unit on the question of licensing, it seems to us that the architects are in the main responsible for the situation. These inexperienced men whom such a system would hold in check are usually building from incompetent drawings prepared at a cost of from fifty to one hundred dollars for each building, and the architects who grind them out at so much a yard are depending upon the revision by the engineers of the Bureau of Buildings for the small measure of safety which can be secured under this system. A licensing act would place the responsibility for constructing defects where it belongs, and would undoubtedly insure a much nearer adherence to the Institute schedule by "architects," as well as architects, than any amount of preaching by the members of the chapters. In the meantime the Mason Builders' Association are taking up the question actively, as the report of Superintendent Hopper's commission included a recommendation for the licensing of all superintendents, whether they are builders or architects, and after a meeting of this association held on April 8th, President Francis M. Weeks stated that his organization had decided "in favor of drafting a bill to license general building contractors."

PATENT smoke tests, fresh-air vents and other graft games to which the building public has been subjected for some years past are now impossible as Governor Higgins has recently signed the "Agnew Bill," mentioned in the last number of *ARCHITECTURE*, and it is now the law of the State. Under this situation no city official can compel the use of any patented article to the exclusion of all others.

THE National Board of Fire Underwriters has performed a real service for the building interests, by the publication of a complete "Building Code," which they will recommend for adoption in a uniform manner throughout the country. This Code has been referred to as a "Model Building Code," and in many respects it fully deserves this flattering title, and its adoption by American cities generally, with some minor alterations, would go far towards giving us better buildings, as well as lessening the fire risk. The American Institute of Architects is now a member of the National Fire Protective Association, which represents the Insurance Engineering Section of the National Board of Fire Underwriters, and at the next meeting of this association it is hoped that the architects will have thoroughly digested the Code submitted, so that any amendments or recommendations may be offered at that time.



Architects of To-day.

MR. MORTIMER FOSTER, NEW YORK.

The Code generally follows the lines of the present New York Ordinance, but it has brought this ordinance theoretically up-to-date by properly classifying all such portions as are now embodied in the Tenement House Act and placing them under a separate section. We regret to see that this Code has not evolved the move of differentiating between a tenement and an apartment house, as it seems to us that such a differentiation can be fairly made upon the basis of occupancy, and as the law now places upon the city officials the duty of preventing over-crowding in a tenement, who could determine with equal accuracy how many occupants could use the structure, and upon the basis of such occupancy the classification of the building could be determined. In a recent decision by the Supreme Court relative to a restriction in a deed, the court ruled that a tenement was a condition as well as a building. In this instance the property had been restricted against tene-

ments, and the plaintiff attempted to prevent the erection of a high class apartment house because such a building came legally under the tenement definition. The contention was not sustained, however, as the court considered that the intent of the restriction was to prevent the erection of a building which would be a nuisance to the neighborhood, and not to prevent the owner of the land from erecting a building which would be in every respect the equal of the private houses in the neighborhood, with the exception that it would be occupied by several families instead of one.

In the "Model Building Code" the restrictions generally are somewhat more exacting than in the present New York ordinance, particularly with reference to matters which the insurance interests consider most vital; but in the Tenement House Section the court areas are far less than in the New York Law.

This same codification and classification is sorely needed in the New York City Code. As an indication of the situation in which an architect finds himself, one of our friends has been spending a large amount of time in hunting up an amendment to the Theater Section of the Code passed some months ago. This amendment was published in the "City Record." All of the copies of the Record of that date were sold, none can be obtained except by borrowing from some fortunate practitioner, so that the architect who is about to design a theater has to comply with a statute of which he cannot obtain a single copy for his guidance.

THE Boston Society of Architects recently had a warm discussion in relation to the practice of furnishing sketches or other professional assistance before being actually retained by a client, for the purpose of securing employment. The matter was finally referred to a special committee who recommended the adoption of the following rule:

"This Society is not a trust or trade union, and does not fix rates of charges to be made by its members. It has, however, recommended to architects and to the public a schedule of charges that, through long experience, have been found to be the minimum rates that yield a reasonable profit. Any member whose skill permits him to obtain it may reasonably charge more. Those who charge less break the lowest remunerative price and act contrary to the interest of the profession, and in the long run to their own interest. The regular rates of commission do not cover competitive work to obtain employment. This should be paid for separately. If such work is done without charge the result is the same as the charging of less than the schedule rates, and is in the same way undesirable and undignified. Such practices diminish the usefulness of architects as unprejudiced advisers and lower the standard of the architectural profession."

A COMPETITION in which prizes are offered to the extent of \$1800.00 is rather rare at any time, and is but even more remarkable when it is offered by a business house purely as an advertising venture. But such premiums, divided into a first prize of \$1000, second prize \$500, and the third prize \$300 are offered by an Indiana manufacturer of kitchen fixtures for the design of a "model kitchen." The programme is quite a model itself, as expert judges are appointed, careful instructions given as to the rendering of the drawings and all the possible information given to the competitor. The promoter's profit naturally comes in by his retaining ownership in all the drawings submitted.

A TASTE for country and suburban life is now sweeping over the entire country. In no other way is this so much in evidence as in the large amount of space devoted to country life in the magazines and periodicals. There is hardly a paper with any circulation that has not its "Country House Department," usually conducted by some one who speaks with authority, and who fortunately does not fall into the errors of the writers of a few years ago, who usually set before their readers a ten-thousand-dollar house, which they guaranteed could be built for three thousand. This situation is all the more surprising in view of the fact that the country house which formerly cost four or five thousand dollars requires an outlay of seven or eight thousand dollars built under existing prices.

This same tendency is making to a large extent for the beautification of the American city, and in no other place is it so evident as in New York, which for the past forty years has been almost bare of foliage except within the parks. Some years before the Civil War the streets of the metropolis were lined with trees, but with the pest of caterpillars came the demand for their destruction and the introduction of the English sparrow; and now the city is suffering from this hasty action, and there is an old ordinance on

the statute books making it a misdemeanor for anyone to give "aid or comfort" to the English intruder. The architects fortunately are in a position to aid in this good work, and they more than any other class of men are responsible for the happy renaissance of green things which New York is beginning to enjoy. Window boxes and potted plants now blossom along the streets, and the city is taking a much happier aspect with these improvements.

ON the invitation of Mr. George B. Post, President of the New York Chapter of the American Institute of Architects, and through the courtesy of Senator John F. Dryden, the members of the New York Chapter and the Architectural League were invited to inspect the new building of the Prudential Life Insurance Company at Newark on May 18th.

Following up this excursion, and after a discussion on "Ancient and Modern Aqueducts," which took place at the League meeting on June 6th, the members of the League enjoyed an outing trip to the Croton Dam on June 10th under the guidance of the engineers in charge.

THE TRINITY BUILDING AS AN INVESTMENT.

HENRY OLMSTED, JR.

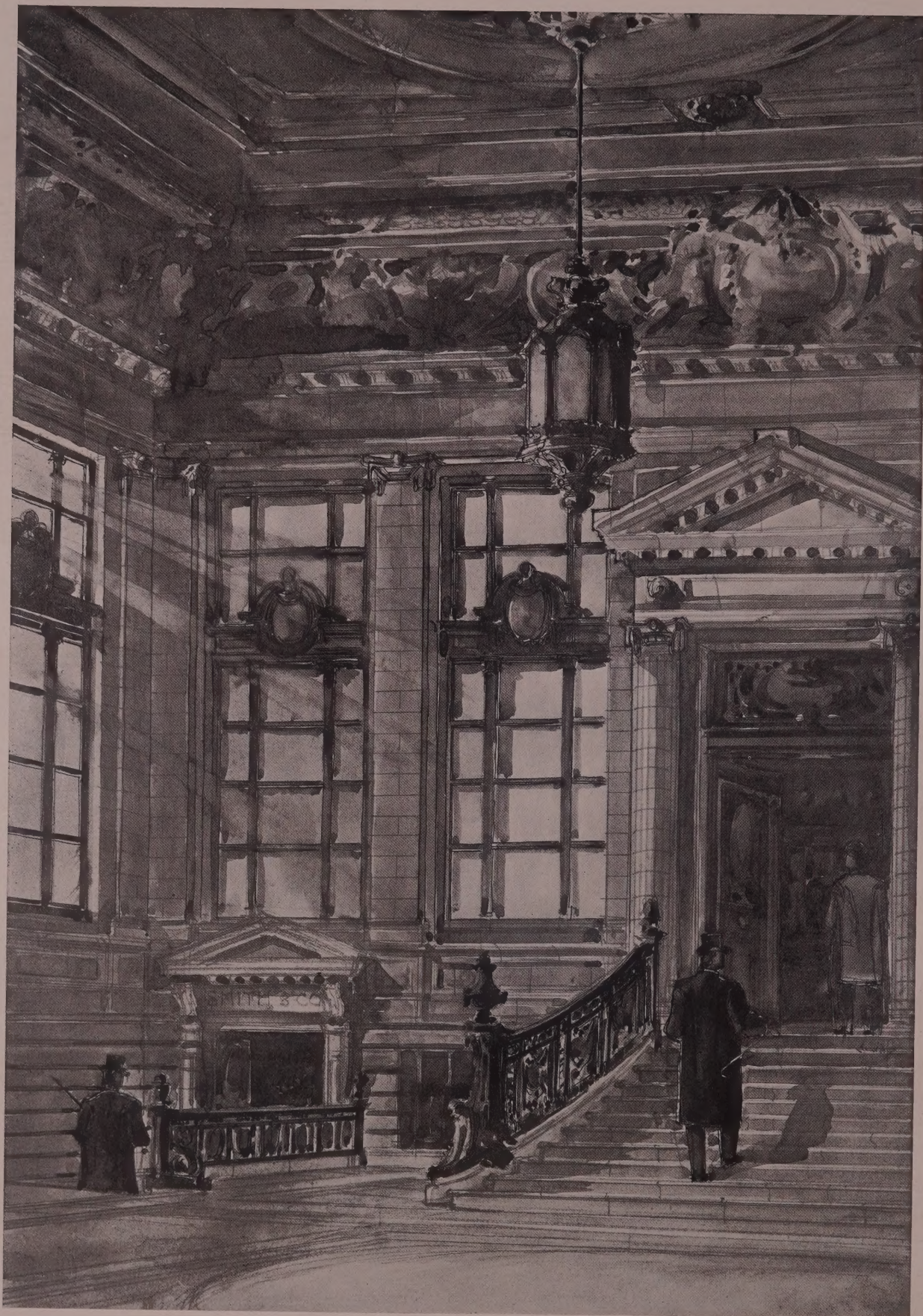
THE purpose of this article is to bring sharply to the minds of Architects and Builders, and to the attention of Capitalists, the imperative demand, advantage and mutual profit, the one for the other, to be had through their co-operation in the construction of buildings embodying the highest types of architecture, furnishing and equipment. No more notable example could be afforded than the Trinity Building, illustrated in this issue. The Trinity Building is the most luxurious office building in the city, and it is believed that there is not another in the world of its class that can compare with it.

Situated beside old Trinity Church Yard, where lie many of New York's great men of the past, near the head of Wall Street, the world's greatest financial center, it links the memory of the great of the dead past with the great of the living present. Its architecture is deeply significant and renders it akin to the ancestral church whose name it bears, as well as to the past, while with its most modern of fittings and equipment, and the financial success awaiting it, connect it irrevocably with the present.

Later it is to be augmented by an addition to its northern wall, so that it will correspond in appearance and keeping with a twin building which will be erected upon the adjacent plot north, and which it is reported will involve a cost of three to four million dollars plus three million dollars for the ground. The entire floor space of the twins will be more than 400,000 square feet, thus placing them in the front rank of skyscrapers in point of floor space. Jointly they will be veritable giants as to length and breadth, and the foundation of steel frame work will be so substantial that in years to come other stories may be added to the twenty-five arranged for.

The present completed structure is located at 111 Broadway, and is owned by the United States Realty and Improvement Company, a corporation composed of the largest capitalists and builders in the city. According to the plans, old Thames Street will be moved north twenty-nine feet and ten feet added to its width to compensate the city for the closing of the little street in the rear of No. 115 Broadway, the site of the proposed twin.

(Continued page 89.)



DESIGN OF LOBBY FOR BANK WITH A HIGH BASEMENT.

Howells & Stokes, Architects.

(Continued from page 87.)

A superficial observer might make the error of estimating that the twin buildings will earn less on the investment than any of their skyscraping neighbors, owing to the lavishness of the interior trim and equipment, but such is not the case, as the present building and its proposed counterpart will yield a handsome return upon the capital invested.

Credit is due the Architect, Mr. Francis H. Kimball, for the harmony and proportion which he has given this monumental piece of work, especially in view of the fact that one of the most difficult problems of modern architecture is to produce in the skyscrapers of today a composite mass purely architectural and entirely harmonious in the whole. The problem of the architect was to design a very tall building upon a very long and narrow plot, to be typical of the architecture of the church facing it. Unlike the majority of buildings, this one has four sides exposed or rather fronting upon streets or unbuilt land. The entire exterior typifies in a sense the Gothic church architecture, and so faithfully has this form of design been carried out that upon all sides within and without one is strongly reminded of that school.

The excellent demand for this particular building is apparent from the fact that 95 per cent of the entire building was rented before completion, and the remaining five per cent within a few weeks after completion. This phenomenal record and the reasons for the large success achieved in the enterprise are practically covered by the great desirability of the location; by the superb interior fittings and finish; by the fact that fire protection has been thoroughly conserved both within and without—steel frame, hollow-tile floors and partitions, fire retardant wood-work and Mississippi wire glass at all exposed windows; by the fact that there is light and air from all sides; through the potential fact that there is abundant elevator service, and that the elevators are of a type that can never fall, and by the fact that through the installation of a vacuum sweeping and cleaning system there is obtained the maximum of cleanliness and freedom from dust and dirt. The architect, owners and builders realized that these all powerful factors meant immediate success to their enterprise, and they combined to produce them in the shortest order possible, and that they have thoroughly succeeded is shown from the result.

The three exterior walls are built entirely of light blue Bedford Indiana limestone, which was cut, delivered and erected within five month's time by William Bradley & Son.

There were 13937½ barrels of Atlas Portland Cement used in its construction.

Upon entering the main hall from Broadway a most beautiful and striking feature is the exquisite bronze work executed by the Winslow Bros. Company.

The entire trim throughout is of selected mahogany, chemically treated to resist fire. It will not ignite at a temperature of 1700 degrees fahrenheit, and will never decay. This is the largest single installation of mahogany trim in the world. It cost over \$180,000.

The most important feature in the building is the installation of the highest rise plunger elevators in the world, which operate at the remarkable speed of 600 feet per minute for express. These elevators are justly considered the greatest triumph of elevator invention and progress. In the history of the world no human being was ever carried 300 feet high and firmly supported from the earth at every point.

Cleanliness and perfect freedom from dust and dirt from demand has now become an established possibility in not only this building, but every class of construction on the face of the globe, through the invention and installation of the Vacuum Cleaner System, formerly known as the Kenney Vacuum Sweeping System, of which installation has been made in this building. It will remove dust, dirt, clean furniture, walls, ceilings, clothes, etc., quicker and better than any other known method. It will carry such dust, etc., from the twenty-third story to the sub-basement in about fifteen seconds and dispose of it for good. Through pipes concealed in the walls, and portable hosing fitted with special appliances, in the hands of the office cleaning force, and by means of suction from an engine in the basement it draws in and carries away instantly all dust and dirt. Its uses are too numerous to mention. It renovates; cleaning not only the surface of the carpets or rugs, but without removing them from the floor. The modest householder can now do away with the bugbear of house cleaning by means of portable plants, which are sent to do the work of cleaning without taking the goods from the floor. The saving alone from this system cannot be adequately expressed, as it actually saves the life of so many articles, but generally in large office buildings it will save twenty-five per cent over the cost of the old method of sweeping, dusting and removing such dirt.

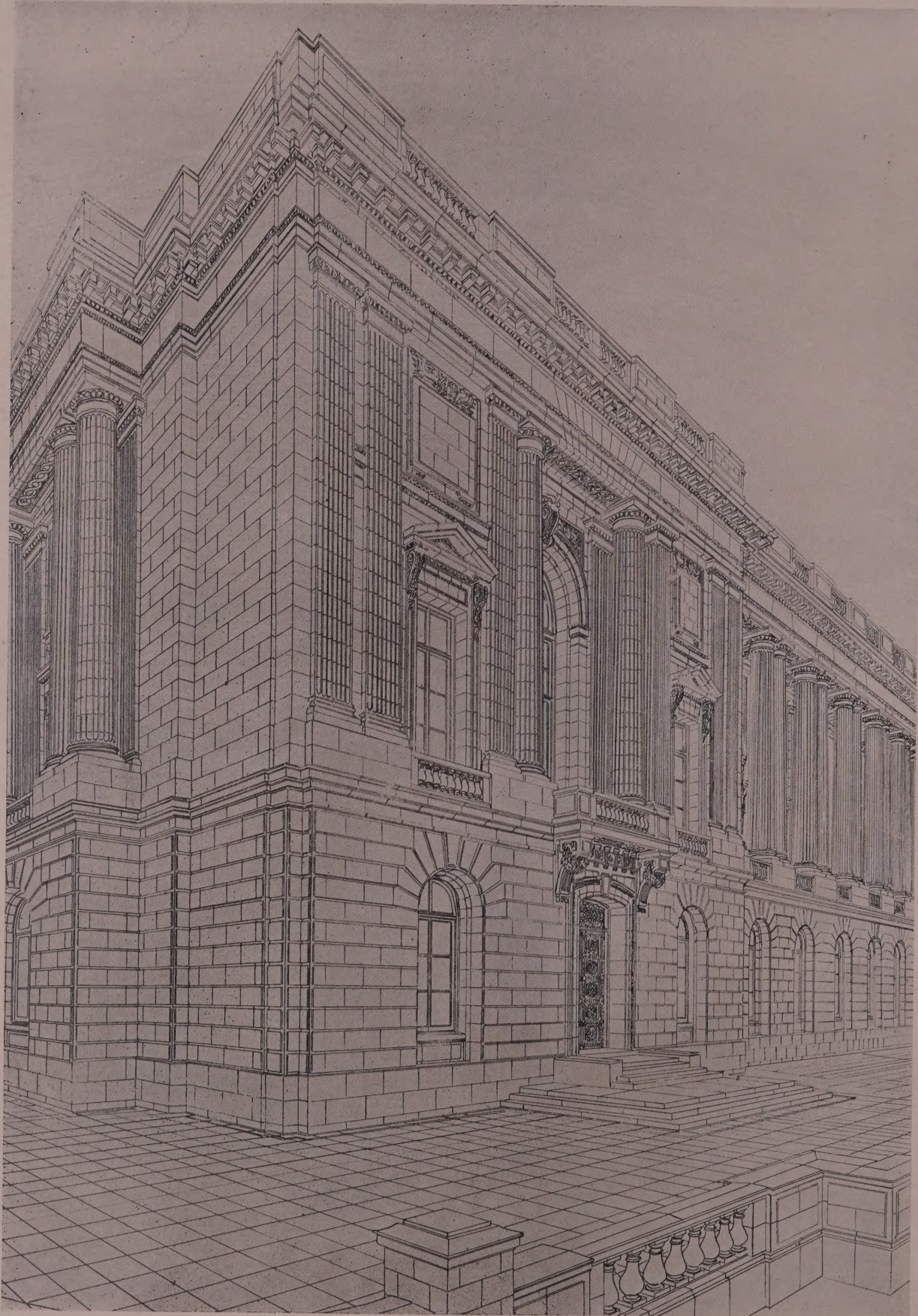
With a forest of skyscrapers in this vicinity the danger of entrance by fire through windows where a fire hazard was presented has been met by the use in all such windows and skylights of Mississippi Maze and polished wire glass. The results of its use in Baltimore after her great fire have demonstrated beyond doubt that wired glass is the best fire retardant for openings known. "Maze" wired or wireless glass installed in upper sashes or doors makes for the better diffusion of light.

The modern office building affords many of the conveniences of our best hotels, for instance in the matter of hot water, which is supplied in the Trinity Building to every floor. This hot water is produced by the exhaust steam, and considerable difficulty has been experienced in keeping it at the proper temperature, for when too heated the steam at the faucets is simply steam, whose effect when excessive is very disastrous upon the piping owing to the unnatural expansion and contraction produced by heat and cold. To successfully overcome this has been a very difficult problem until thermostatic regulators were introduced, the most successful of these in point of simplicity, duration and absolute perfection of mechanism has proven to be the Lawler thermostatic regulator for hot water tanks, one of which is installed in the present case, and which regulates and keeps at a given temperature all the hot water in the building. Its success lies in the fact that it has no delicate diaphragm, valves and rubber packing to wear out or get out of order, and it lasts a life time. Too much cannot be said in commendation of the good judgment displayed in the selection of such important devices as this, which is but one of many that ultimately make for the success of the edifice as a whole.

It would interest the profession to know such facts as the cost of this building, the cost of the land, the amount of mortgage placed upon it and the rate of interest paid for the use of the mortgage, the cost per cubic foot, the income and expense, etc., per year, but this cannot be published at present. The following data will be of interest generally:

The size of the plot is eleven thousand five hundred and ninety-five square feet. It required twelve months for the erection.

(Continued page 91.)



OFFICE BUILDING, HOUSE OF REPRESENTATIVES. Thomas Hastings, Consulting Architect. Elliott Woods, Supt. U. S. Capitol Building and Grounds.

(Continued from page 89.)

There are twenty-three floors, two being underground. The approximate floor space on twenty-three floors equals two hundred and fifty thousand square feet. The building rises to a height of two hundred and ninety feet above Broadway. The cubical measurements of the building, exclusive of caissons, is three million seven hundred and eighty-two thousand nine hundred cubic feet. The plot is forty-seven and one-quarter feet wide by two hundred and sixty-two feet deep.

There are twenty-one rentable floors. All partition work is installed at special order of incoming tenant without charge. Partitions are interchangeable, and can be moved without marring other trim. This system is carried out in only five other New York buildings.

There are approximately thirty offices on each floor. If there are ten people in each office the population aggregates six thousand three hundred.

Rentable floor space equals one hundred and sixty-one thousand and nine hundred sixty-one feet. Rent for floors above the first is three dollars to three and one-half dollars per square foot. The average estimated rental per year for the entire building five hundred and fifty thousand dollars.

Every floor and office is equipped with wire for bells, buzzers, stock tickers, telegraph wires, public and private telephone wires, messenger calls, clock service and fire alarm service.

All floors are of wood save in the public and private halls, where interlocking rubber tiling is laid, and in the basement, where brick or cement is used.

This statement of facts is illustrative of the point in question, namely that our American skyscrapers pay an excellent return upon the capital invested when erected and managed upon these lines. It is but make-shift construction in this city when very large buildings erected are not constructed of the best materials and fitted with the most modern and expensive interior devices for the welfare and advantage of the tenants. Capital would always do far better to seek the reputable architect and builder to invest its self in construction of this class where returns are creditable, certain and high, rather than to find its Waterloo in Wall Street, with its record of wreck and failure.

ARCHITECTS' REGISTRATION IN EUROPE AND THE UNITED STATES.

THE following particulars concerning the position of architects in European countries and the United States, which have been collected for the purposes of the Royal Institute Committee now sitting on the question of Registration, are published in a recent issue of the *Journal* of the Royal Institute of British Architects.

GERMANY.

The profession is free. Architects who have studied in the State High Schools can enter for the examination known as the Government Architect (Staat Baumeister) examination. This title is obligatory for architects of public works. It is now almost always required for city architects. Ordinary practicing architects desiring to hold an official position pass this examination. The three technical high schools of Berlin, Hanover and Aix-la-Chapelle grant this diploma after a course of four years. The other technical schools do not grant a diploma, but a certificate on leaving school.

AUSTRIA.

The profession is free, as the architect is regarded as an artist. There are Government diplomas, but they are little sought after by artists, as they only have a scientific value.

HUNGARY.

The profession is free; but an architect holding an official position must be provided with a diploma granted by the Polytechnic School of Buda-Pesth, after a four years' course. The courts only recognize as official experts or "directors of buildings" holders of this diploma.

HOLLAND.

The profession is free. The State Polytechnic School of Delft grants a diploma of architect-engineer after a four years' course. This is in no way obligatory.

BELGIUM.

The profession is free. No diploma at all.

SWITZERLAND.

The profession is free. No diploma at all.

ITALY.

Compulsory diploma. Granted by the Government on the recommendation of the Examination Commission of the Government "School of Application." The scientific side is dominant. The same diploma is given to the architect as to the engineer.

SPAIN.

Compulsory diploma. Architect must pass examinations after his studies, and be provided with the diploma granted by the only two schools that exist in Spain: the Superior School of Architecture, Madrid, and the School of Architecture, Barcelona. Diploma conferred through Minister of Public Instruction.

PORTUGAL.

The profession is free. Diplomas granted by the State Schools of Lisbon and Oporto, but not obligatory in any way.

SWEDEN AND NORWAY.

The profession is free. No diploma at all.

RUSSIA.

Compulsory diploma or certificate. Diploma granted by the Imperial Academy of Fine Arts, the Moscow School of Architecture, and the State Polytechnic Schools. Certificates granted to bona-fide practitioners and assistants after passing an examination held by the Technical Committee of the Minister of the Interior. This does not give the title of architect, but the right only to practice.

GREECE.

The profession is free. The Government gives no diploma; but the diploma given by the School of Art of Athens is sought for only by those who wish to occupy an official position.

TURKEY.

The profession is free.

UNITED STATES OF AMERICA.

The profession is free—except in the states of Illinois, New Jersey and California, where architects must have a license. This license is given by examination by the State Jury.

FRANCE.

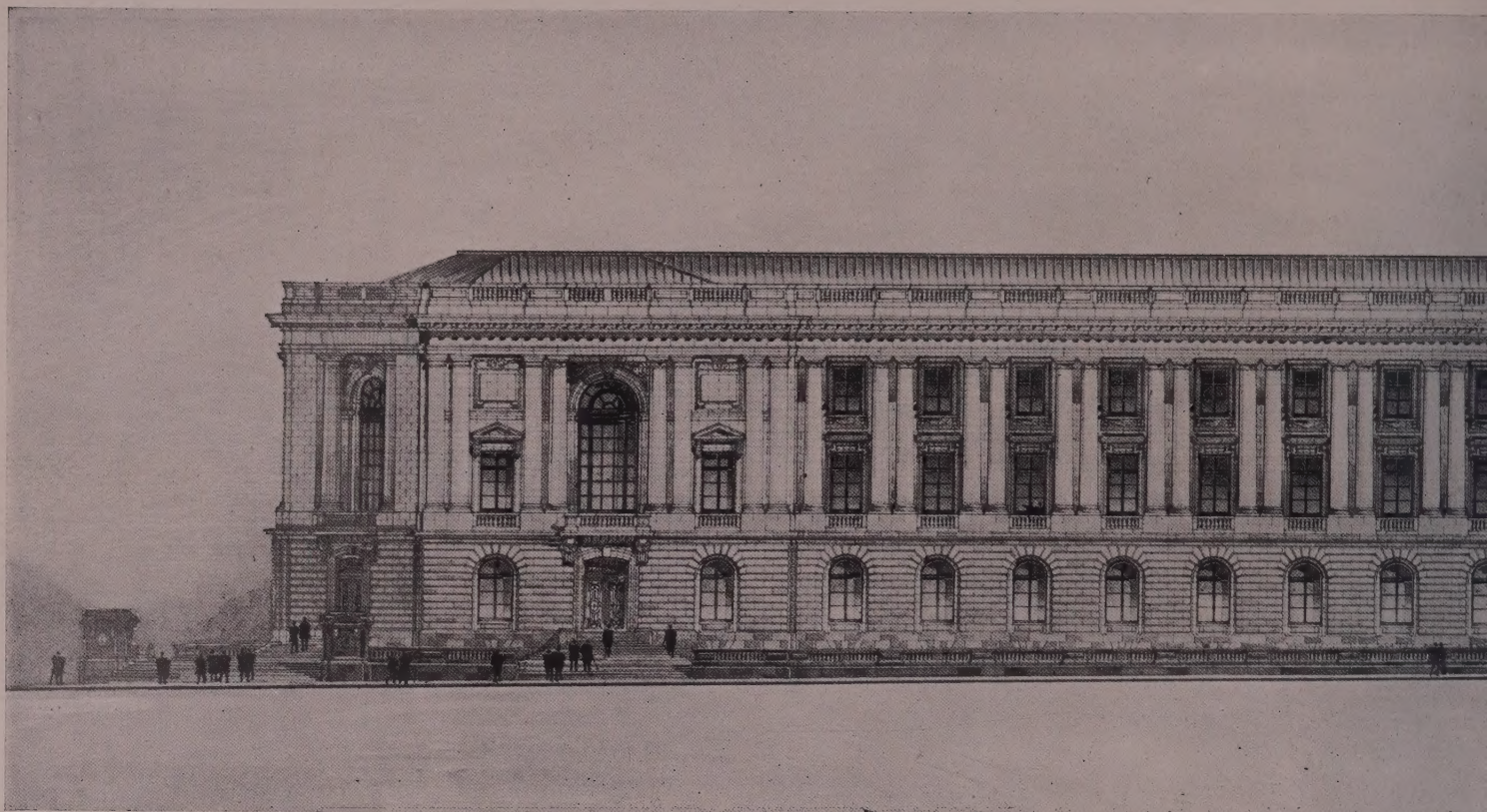
The profession is free. The Government gives diplomas to the nominees of the Ecole des Beaux Arts, and the title "Architecte diplômé par le Gouvernement"; but these diplomas give no privileges or rights whatever. And no official need possess this diploma, or any other certificate granted by an examining body.

COMPARATIVE TABLE.

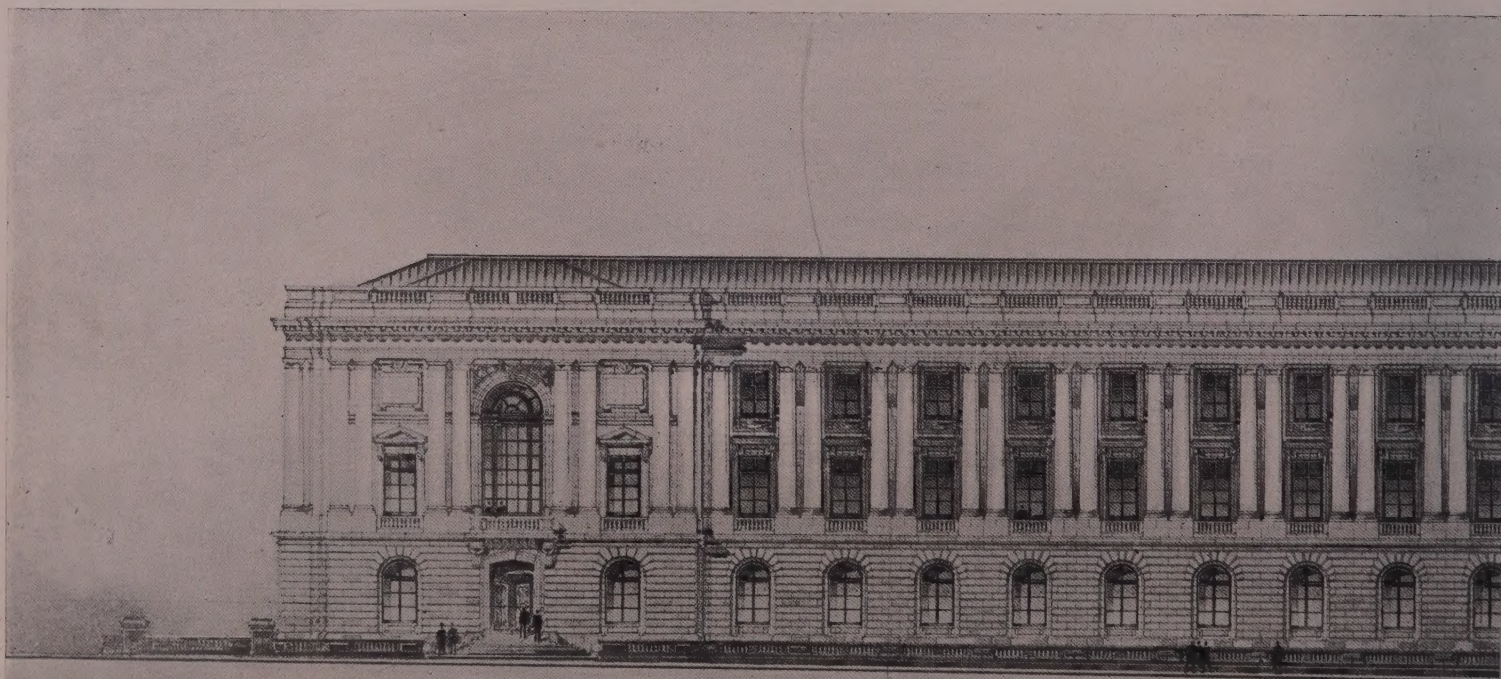
Profession is absolutely free in Austria, Holland, Belgium, Switzerland, Great Britain, Sweden and Norway, United States (save in three states), France, Turkey, Portugal.

Profession is free, but Government officials require diploma in Germany, Hungary, Greece.

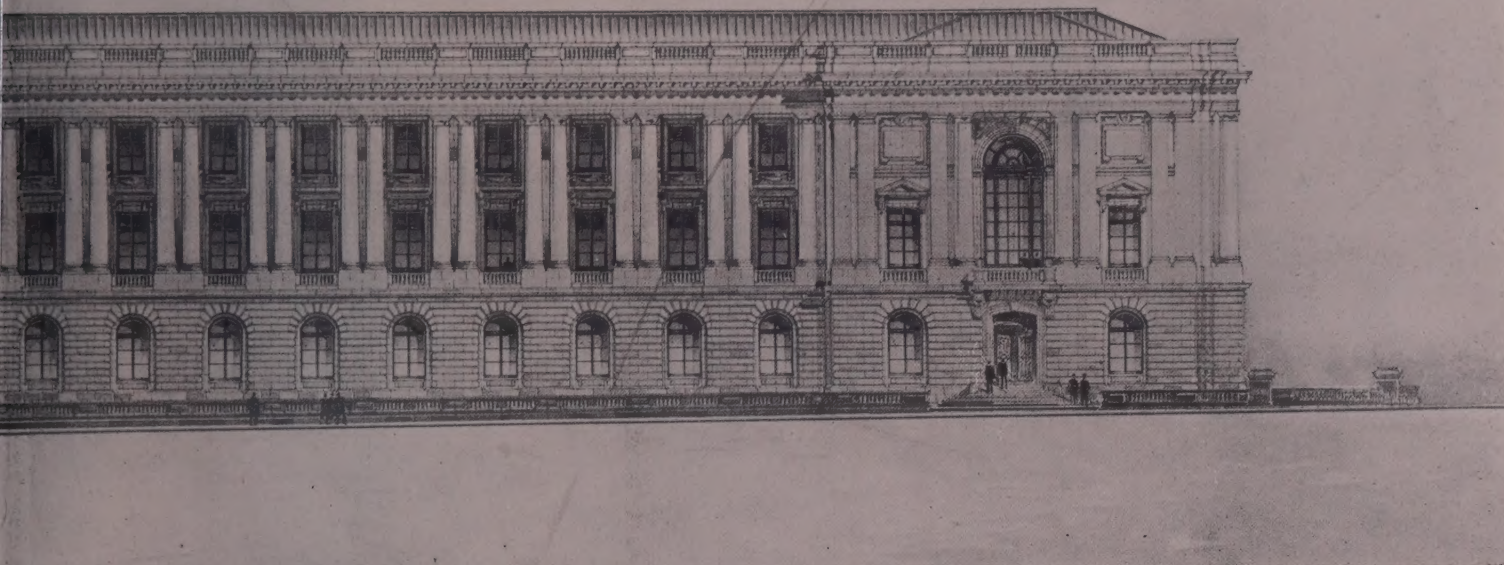
Diploma is required in Italy, Spain, Russia, and in the United States except Illinois, New Jersey and California.



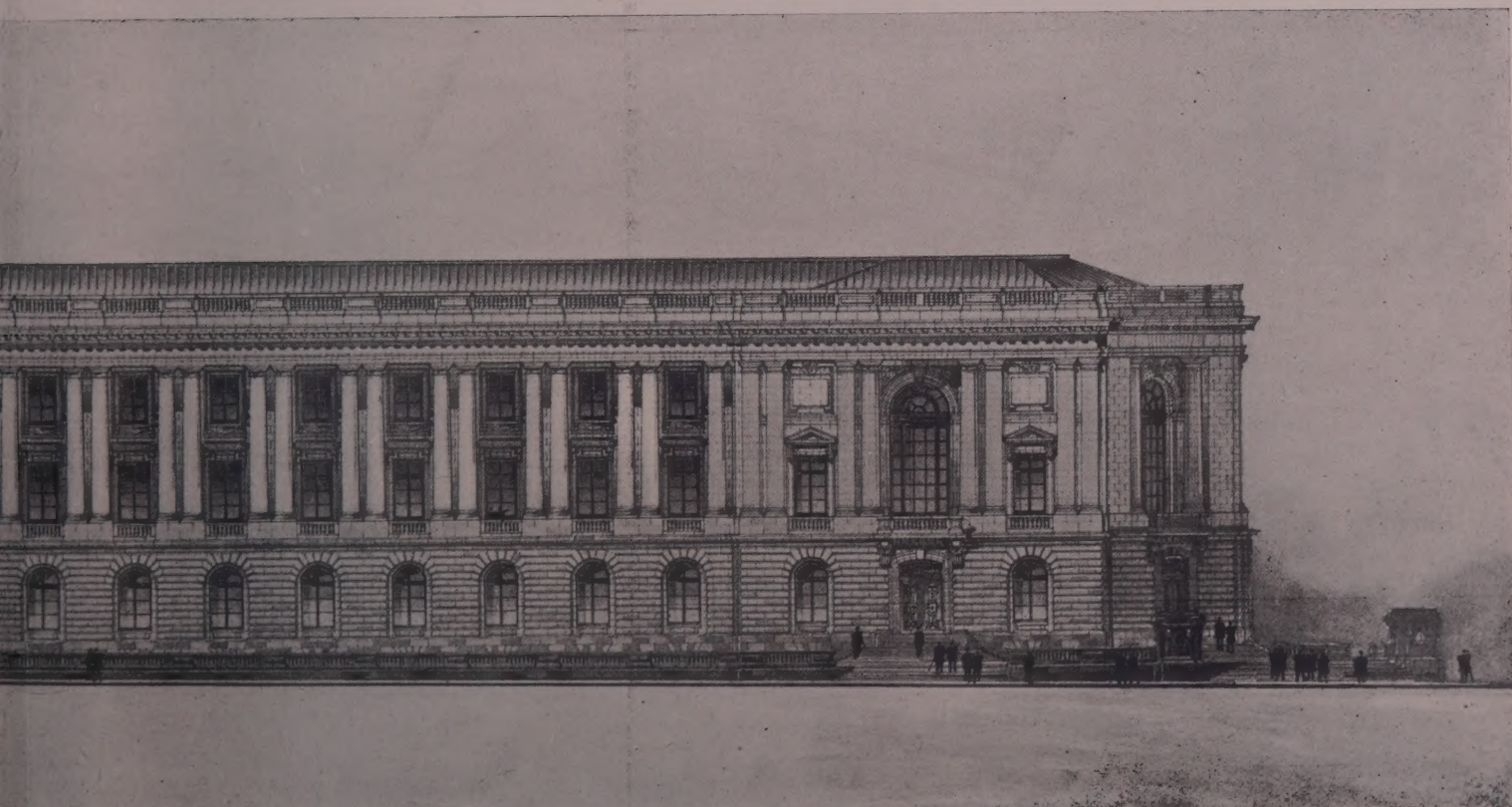
OFFICE BUILDING, U. S. SENATE, WASHINGTON, D. C.



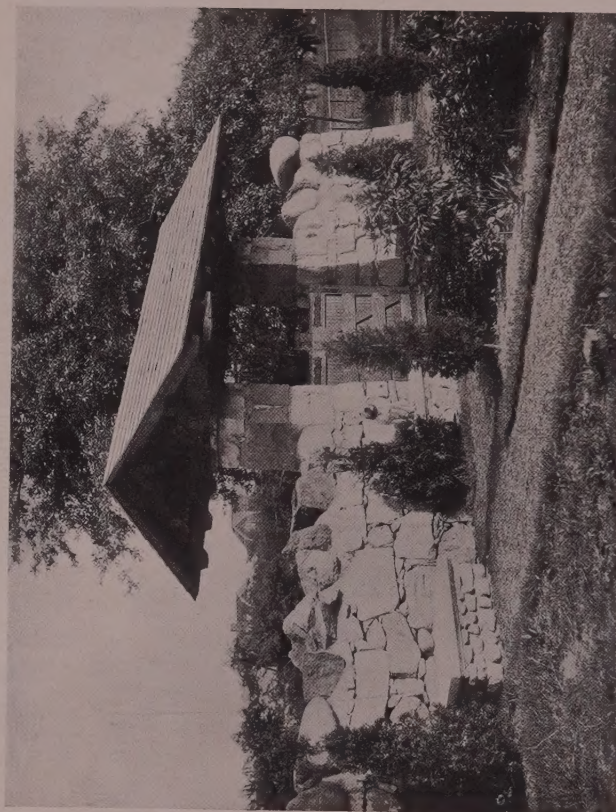
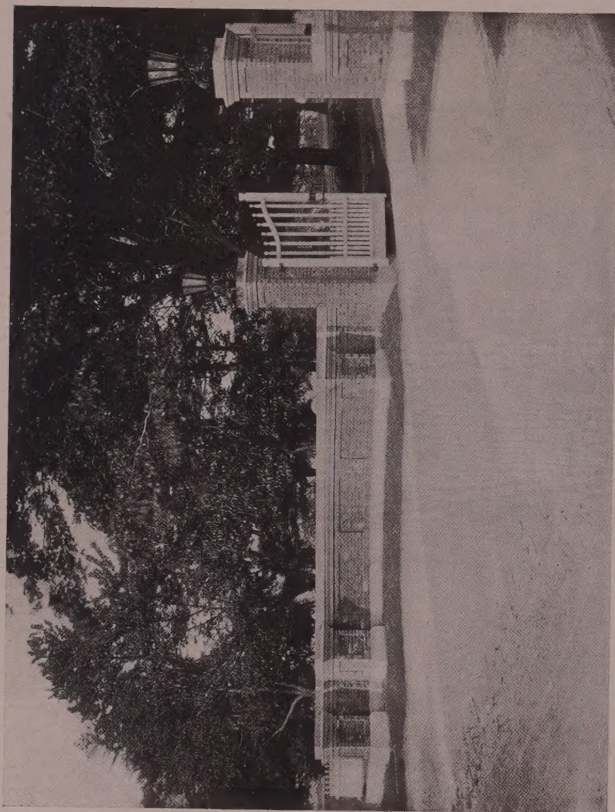
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MAIN ENTRANCE AND Lych-Gate, Mrs. THOMAS EWING, JR., YONKERS, N. Y.
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TENNIS COURT AND DETAIL, T. HENRY DIXON, CHESTNUT HILL, PA.
G. F. Pentecost, Jr. & Ferruccio Vitale, Associated Landscape Architects.

THE SCHOOLS OF ORNAMENT.*

Copyrighted, 1904—Henry R. Towne.

Persian.

Conquest of Persia by Abu Bekr, 632-637 A.D. Highest development under Shah Abbas, 1586-1625.



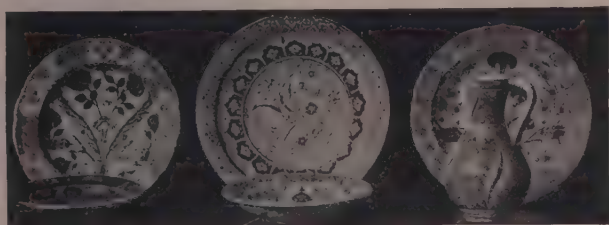
Persian Dish.

ANCIENT Persian ornament is almost identical in character with Assyrian. In them both we find the lotus still used in a manner so suggestive of Egyptian decoration as to indicate the latter as the origin of Assyrian art. The symbolic tree of the Assyrians is familiar to all, and is an idea in design which has descended through oriental art down to the present day, as Mr. Lewis F. Day so interestingly explains in his "Nature in Ornament."



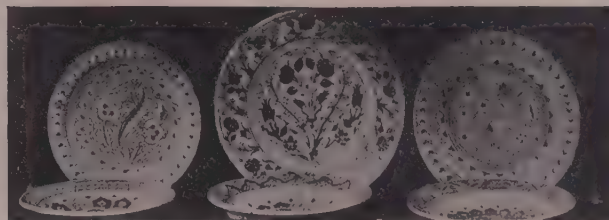
City Portal, Teheran, Persia.

Discs of bold patterns which we see later in Sassanian Persian work, and even modified in form in the Renaissance of Italy, France and Spain, are most boldly and effectively handled in Assyrian. The daisy or kindred flower is evidently an inspiration for many of these discs unless Mr. Goodyear will throw these also to the in-



Faience Ware—Lindos, Island of Rhodes.

* A series of articles written by Mr. William Winthrop Kent, Architect, forming part of "A Treatise on Locks and Builders' Hardware," by Henry R. Towne, President of the Yale & Towne Mfg. Co., and Past President of the American Society of Mechanical Engineers. This book is profusely illustrated and contains more than 1100 pages, 4x6 1/4 " John Wiley & Sons, Publishers. Price, \$3.00. It is the intention of the publishers of ARCHITECTURE to reprint one school in each number.



Faience Plates—Lindos, Island of Rhodes.

satiate lotus cult and make them up of radiating buds. Checker, flute, diamond, scale, and many of the old primitive and prehistoric units abound, and the foliage of the acanthus is carved in a massive and imposing fashion. The guilloche and chevron also are seen.

Later Persian is a mixed but beautiful school, more of a feminine and luxurious character, but yet it is the school of a sybarite who loves his garden, his roses, his song birds and his music, all of which brought poetry and happiness into the daily struggle and

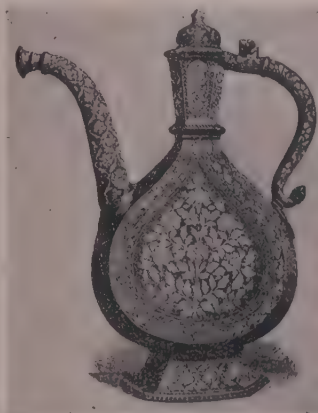
made the wolf sit awhile outside the wall. With Indian and Arabian art the Persian was much involved, and to-day shows how vigorous was the Persian stock that once swept the East before it, not only in battle, but in the arts also. To-day he who owns a really good specimen of art of the best Persian period is fortunate.

Animal life was introduced into Persian art, which distinguishes it from that of the Arabians and Moors, as also does the combined use of conventional and natural forms, as we have seen in the Chinese. Like the latter the Persians live close to the garden and the field, and reproduced the very air thereof.

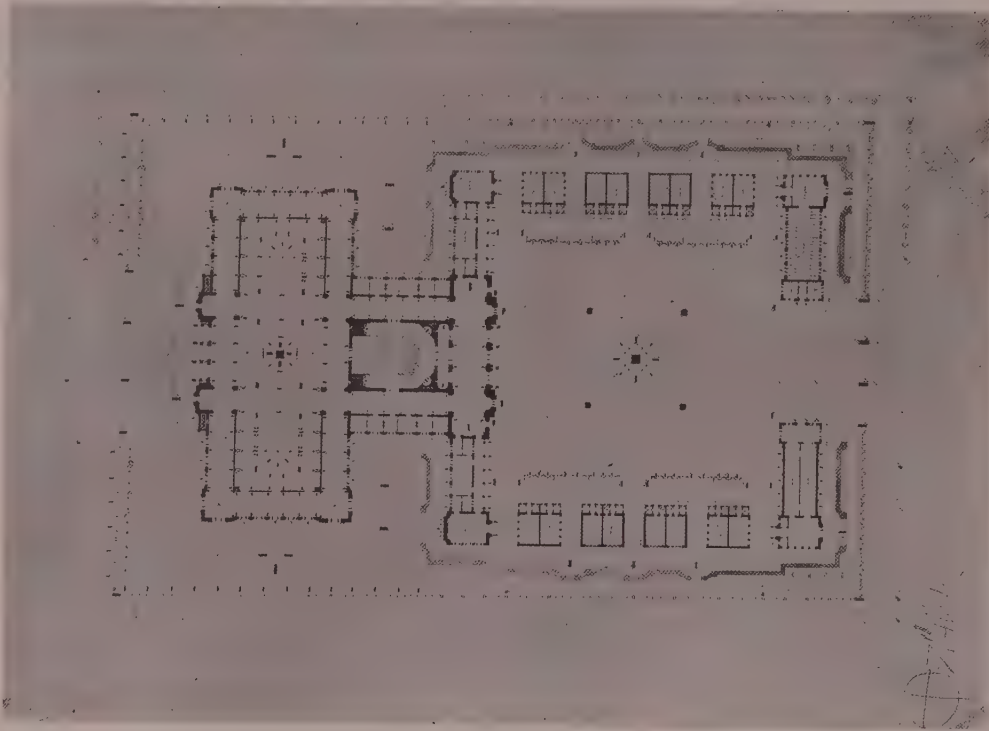
In the illuminating of manuscripts the Persians found a rapid vehicle for the dissemination of their style, while through the channels of trade their stuffs and other manufactures found a ready market, so pleasing was the art displayed in carpet, rug, silk, carving and metal work of all kinds.

Flowers are the Persian's favorite theme, a safe source of inspiration for poet or designer in all ages and nations, and the rose shares with the carnation the honors of his printed page, his silken rug or his marble lattice.

In distinction from the Egyptian, the lotus is at length deposed and the flora of dry land are the court favorites.

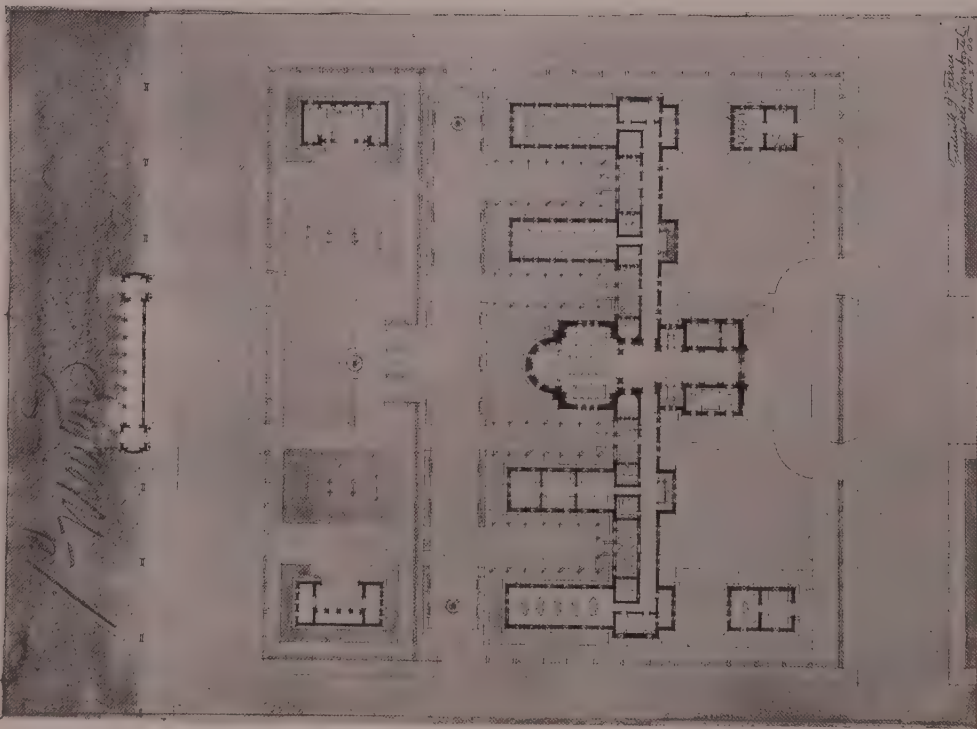


Metal Ewer.



W. T. Karcher, Atelier Cret.

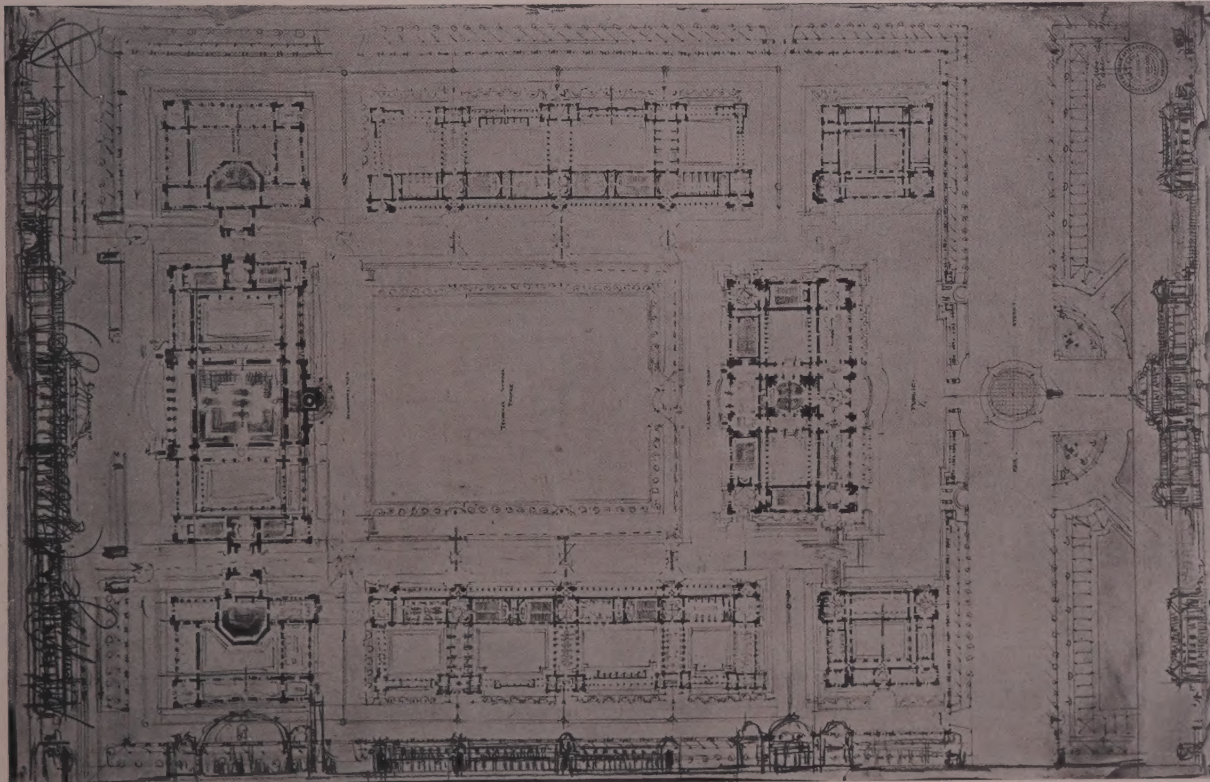
A School of Fine Arts. II Medal.



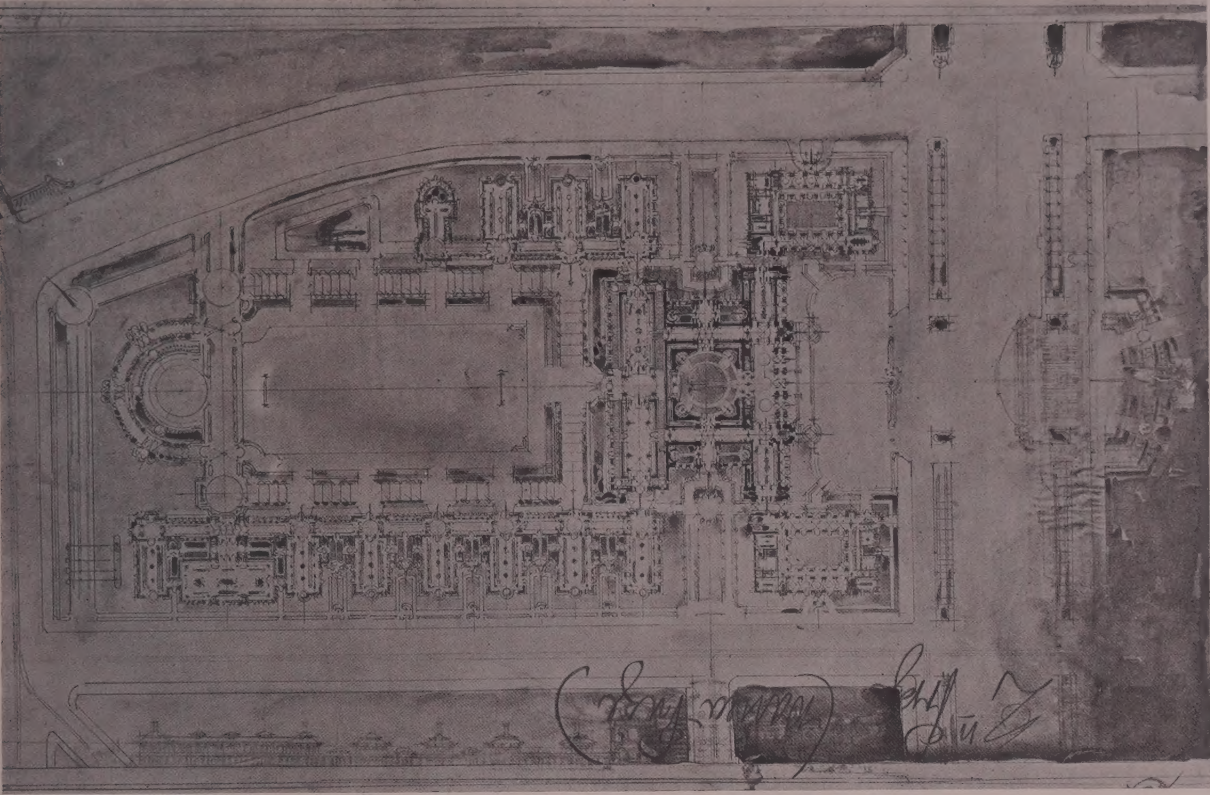
F. J. Feiler, Atelier Hornbostel.

A Seaside Sanitarium. I Mention.

BEAUX ARTS COMPETITIONS.



POLYTECHNIC SCHOOL.
1st Prize. W. F. Groher, Atelier Cret.



A POLYTECHNIC SCHOOL.
2d Prize. W. de Mari, Atelier Hornbostel.

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WARREN PRIZE PROGRAM.

POLYTECHNIC SCHOOL.

THIS school will be conceived under the same principle as the Massachusetts Institute of Technology, the Lawrence Scientific School at Harvard, or the Worcester Polytechnic School; considerably inferior, however, in importance and in number of students to the Massachusetts Institute of Technology or to the future school at Pittsburg. It would give instruction to about 1000 or 1200 students only. It would contain two large divisions—one common to all the students—and would be composed of offices for administration, with offices for the President and Secretary, rooms for the faculty and societies, etc., four or five halls of different dimensions for lectures, one of which would be large enough for about 1500 students; a general library for 10,000 volumes, and large technical museum. This first division would form a group of buildings, the composition of which may be treated in a compact manner or arranged with a court or courts. The second division would contain the different sections or departments. These sections would be ten in number:

- 1st, Mechanical Engineering.
- 2nd, Electrical Engineering.
- 3rd, Mining, Engineering and Metallurgy.
- 4th, Civil Engineering.
- 5th, Chemistry.
- 6th, Physics.
- 7th, Biology.
- 8th, Chemical Engineering and Sanitary Engineering.
- 9th, Geology.
- 10th, Naval Architecture.

The competitors must not preoccupy themselves beyond measure with the small details which a deep study and large scale would exact. Let it suffice that it is understood that each one of these departments would accommodate 75 to 100 students who would work in important laboratories which would be accompanied by rooms for drawing, lecture rooms, a small library and small museum, the whole arranged in several stories. Each section should have to a certain extent its autonomy, but nevertheless they should all be intercommunicating. Certain of these sections would occupy about an equal space. The Numbers 1, 2 and 3 should be more important, and the one of these three last which should be of the most importance would be the Mechanical Engineering, with a large hall for machinery.

The ground space is supposed to be placed near a river in the environs of the city and to be surrounded on three sides by streets. The form is not determined but its superficial area would be 700,000 square feet.

Notwithstanding the fact that the attendance at this school is numerous, its importance must not be exaggerated, and the attention

of the students is called to the fact that at our period laboratories occupy a very important place in technical education.

The first division of the program—the part common to all students—should be as central as possible, and in all cases easily accessible from each one of the departments or sections. In proportion to the entire area occupied by the buildings this division should not exceed one-quarter of the total surface nor to be less than one-sixth.

This program is above all things a study of general composition at a small scale. The students must pay special attention to proportions, to the general lines, to the means of access and communication, and in short express a plan which would later be capable, if it should be so desired, of development at a large scale. Although the buildings might have in several of their parts three, and perhaps four stories, the plan alone of the ground floor should be given at a scale of three $\frac{1}{128}$ equals 1 foot. On the margins should be indicated a façade and section at the same scale.

CLASS A—PLAN PROBLEM.

A SCHOOL OF FINE ARTS.

The school buildings are situated on a piece of land of generous proportions—about four hundred feet by six hundred feet. The land is level and is bounded on four sides by streets. The following must be provided:

A large, well lighted museum for large casts.

Small galleries for collections of small casts, furniture, coins, engravings, photographs, etc., and a small library.

Four class rooms with professor's rooms adjoining—for 50 men each.

A large vestibule or corridor, where the men can gather while waiting for lectures and where bulletins may be posted.

A large amphitheatre for formal occasions and public lectures.

Accommodations for the administration, consisting of Director, Treasurer, Registrar, etc., and several small offices.

A gallery for monthly exhibitions of school work, with entrance for the public.

Four ateliers for architects—for about twelve men.

Four ateliers for sculptors— “ “

Four ateliers for painters— “ “

Two ateliers for engravers— “ “

Two ateliers for medalists— “ “

Each atelier is to be complete in itself, with coat rooms, toilets, etc.

Accommodations for about fifty men working en loge, with dining-room, toilets, etc.

A number of very large casts are to be situated in the courts or gardens, or on terraces.

A lodge.

There is required for the rendu:

Plan at $\frac{1}{16}$ " scale.

Elevation at $\frac{1}{16}$ " scale.

Section at $\frac{1}{16}$ " scale.

For the esquisse the same drawings at a scale of $\frac{1}{64}$ " on one sheet. The esquisse must be done in ink.

LLOYD WARREN,
Chairman Committee on Education.

CLASS "B" PLAN PROBLEM.

A SEASIDE SANATORIUM FOR CHILDREN.

The sea-side sanatoriums have been found by physicians to be especially efficacious for the treatment of scrofulous children, who, unless their disorder is cared for in time, are apt to develop phthisis in later life.

This sanatorium would be situated on sloping ground on the coast near Atlantic City where the climate is beneficial to disease and should contain accommodations for 100 children. The care of the children is undertaken by sisters of charity, so the buildings should have a certain ecclesiastical character.

They should include on the ground floor: a vestibule, with chapel accessible to the public; the administration, with large reception room and offices; a department reserved for the residence of the sisters, consisting of dormitory, refectory, etc.; the chief physician's office with the pharmacy; two refectories, kitchen and dependencies; bath rooms; small stables, laundry, dairy, gymnasium and play ground.

On the first floor, dormitories of twenty-five beds, wash rooms, bath rooms and W. C.'s; a diet kitchen, a special ward for contagious diseases, a sun parlor.

The ground shall not measure more than 325 feet in either dimension.

For the esquisse give

The ground floor plan, the section and elevation at $\frac{1}{32}$ " scale. The esquisse must be done in ink.

For the rendu give

The ground-floor plan, first floor plan and section at $\frac{1}{16}$ " scale, and the façade at $\frac{1}{8}$ inch.

LLOYD WARREN,

Chairman Committee on Education.

REPORT OF JUDGMENT.

WARREN PRIZE COMPETITION. A POLYTECHNIC SCHOOL.

Groben, W. E.	Philadelphia	Atelier Cret	1st Prize
de Mari, Walter, . . .	New York	Atelier Hornbostel	2nd Prize

Note:—Twenty-one competitors entered.

REPORT OF JUDGEMENT.

CLASS "B" PLAN PROBLEM. A SEASIDE SANATORIUM FOR CHILDREN.

Dunlap, W. E.	Philadelphia	Atelier Cret	2nd Mention
Mauer, Henry	Philadelphia	Atelier Cret	1st Mention
Raiguel, W. O.	Philadelphia	Atelier Cret	2nd Mention
Temple, T. B.	Philadelphia	Atelier Cret	2nd Mention
Opperman,	St. Louis	Atelier Washington Univ.	2nd Mention
Brown, W. J.	New York	Atelier Donn Barber	2nd Mention
Clubb, A.	New York	Atelier Hornbostel	2nd Mention
Davis, J. M.	New York	Atelier Donn Barber	2nd Mention
Feirer, F. J.	New York	Atelier Hornbostel	1st Mention
Thompson J. A.	New York	Atelier Hornbostel	2nd Mention
Puckey, F. M.	New York	Atelier Donn Barber	1st Mention
Varian, L. E.	New York	Atelier Donn Barber	2nd Mention

Note:—Twenty-one competitors entered.

REPORT OF JUDGEMENT.

CLASS "A" PLAN PROBLEM. A SCHOOL OF FINE ARTS.

Brazer, C. T.	New York	Atelier Blair-Van Pelt.	Mention
De Gelleke, Peter . . .	New York		2nd Medal
Groben, W. E.	Philadelphia	Atelier Cret	Mention
Bauer, C. A.	Philadelphia	Atelier Cret	Mention
Karcher, W. T.	Philadelphia	Atelier Cret	2nd Medal
Harper, A. J.	Philadelphia	Atelier Laird	Mention
Clark, Lawrence	Philadelphia	Atelier Cret	Mention

Note:—eight competitors entered.

BOOK REVIEWS.

MODERN PLUMBING, STEAM AND HOT WATER HEATING. James J. Lawler. The Popular Publishing Company, New York. 1904. Cloth, \$5.00.

This book is devoted to the needs of the Plumber, the Heating Engineer, the Architect and the Builder. It appears in the tenth edition, revised and enlarged with over three hundred diagrams and illustrations, showing the various systems of construction in the heating and ventilating by steam and hot water systems. There are six folding inserts showing waste pipe system of plumbing, one pipe system of both steam and hot water heating, overhead system, fan system of heating and ventilation, and steam and hot water circuits.

A TREATISE ON CONCRETE PLAIN AND REINFORCED. 1905. Frederick W. Taylor, M. E., and Sanford E. Thompson, S. B. John Wiley & Sons, New York. Cloth, \$5.00.

This treatise is designed for practicing engineers and contractors, and also for a text and reference book on concrete for engineering students.

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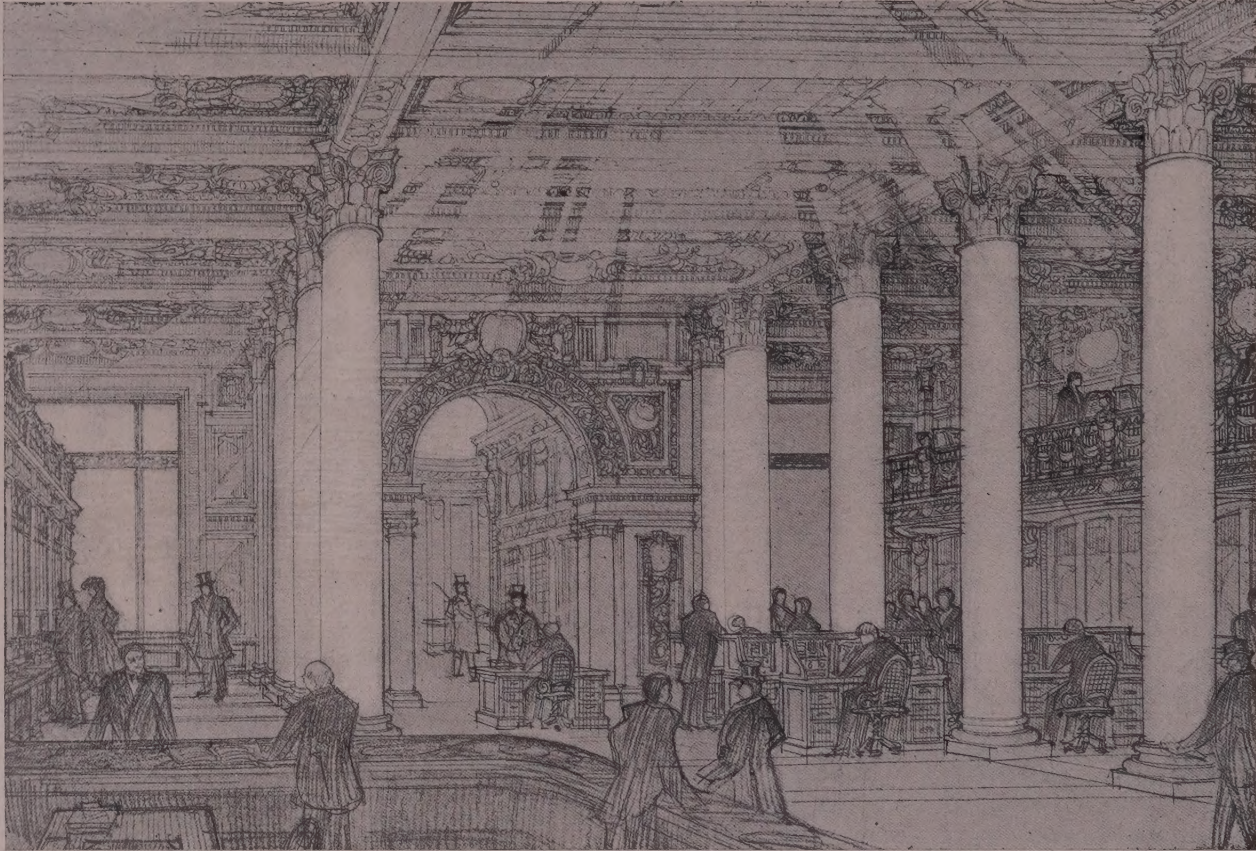
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To broaden the scope of the work and avoid personal inaccuracies, each chapter has been submitted for criticism to at least one, and, in some cases, to three or four specialists in the particular line treated. It has been the aim to refer by name to all authorities quoted, and where the data is taken from books or periodicals, to give the original publication, so that each subject may be investigated further. Proof clippings have also been submitted for approval to those whose names are mentioned. Numerous cross references will be found as well as many repetitions, inserted for the purpose of emphasizing important facts.

The chapters are arranged for convenience in reference, and therefore are not always in logical order.

The Concrete Data in Chapter I presents a list of definitions of words and terms relating distinctively to cement and concrete; a summary of the most important facts and conclusions, with references to the pages discussing them; data on concrete labor, and conversion ratios.

The Elementary Outline of the Process of Concreting, Chapter II, is designed, not for the civil engineer, but for those seeking simple directions as to the exact procedure in laying a small quantity of concrete. Most of the subjects there treated are discussed at length in subsequent chapters.

The Specifications for Cement in Chapter III include the latest recommendations of committees of our national societies, with incidental changes to adapt them for direct use in purchase specifications. The Concrete Specifications have been prepared by the authors to represent standard practice. Specifications for First-class or High Steel, drawn up by Mr. Taylor, are, we believe, the first recommendations which have been made to safely adapt this important material to reinforced concrete construction.

In Chapter IV the Choice of Cement is considered in an elementary fashion, which will serve as a guide to the constructor. Classification of Cements, Chapter V, distinguishes the various cements and limes manufactured in the United States and Europe.

Mr. Spencer B. Newberry, an international authority on the subject treated, has written Chapter VI on the Chemistry of Hydraulic Cement, discussing this complex subject in such a clear and practical manner that it

will be of interest not only to the scientist, but also to the general reader and to the cement manufacturer. Mr. Newberry has also criticised Chapter V. The subject of Proportioning Concrete has been treated by Mr. William B. Fuller, the concrete expert, and his practical use of mechanical analysis is fully discussed.

Mr. René Feret, of Boulogne-sur-Mer, France, whose extended researches enable him to speak with authority, has kindly written Chapter XVIII, entitled *The Effect of Sea Water*.

Mr. Fuller has examined and criticised all the chapters on practical construction, and Prof. McKibben has rendered material assistance in the line of investigations and criticisms relating to the theories of reinforced concrete.

The authors are indebted to many gentlemen for careful criticism of chapters or portions of chapters, or for replies to questions.

ARCHITECTURE EAST AND WEST. 1905. R. Phene' Spiers, F. S. A., F. R. I. B. A. Imported by Charles Scribner's Sons, New York. Cloth, \$4.50 net.

The publication of this book forms a part of an elaborate testimonial to one of England's most eminent and learned architects, R. Phene' Spiers. This testimonial was arranged by fellow architects and many architectural students to whom he has been a friend and advisor during the past thirty years. There are many in the profession in the United States who when traveling in England have had occasion to consult Mr. Spiers, and they will recall his earnest purpose for the promotion of high artistic thought and study.

Quoting the introduction: "The essays on some phases of the Architecture of the past here gathered together have been arranged by Mr. Spiers in answer to a request that he would allow them to be reprinted. It was felt that, scattered as they were, these valuable contributions to the history of the Building Art were not readily accessible, and did not take the place they should do amongst works of reference."

The book is substantially bound and well presented, with numerous half-tone illustrations.